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Subject: 125 Cedar Street Clean up and Monitoring Contractor Scopes of Work



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**New York City Department of Environmental Protection
Bureau of Environmental Compliance**

**Monitoring Contractor
Scope of Work for 125 Cedar Street, Manhattan**

Background

A follow-up visit to 125 Cedar Street revealed debris and significant dust accumulation present on surfaces throughout the interior of the building. The interior cleaning is to be accomplished by a licensed asbestos abatement contractor and monitored by a Monitoring Contractor.

Purpose

The Monitoring Contractor shall provide personnel experienced, trained, and certified in environmental sampling and asbestos air monitoring to be on-site, full-time, during work area preparation and cleaning phases of building interiors (12 stories and a penthouse-5,000 to 6,000 square feet in total). The Monitoring Contractor shall provide qualified staff to observe the work, conduct air monitoring, and monitor the cleanup of the building interiors to ensure compliance with the project specifications and appropriate regulatory requirements. The Monitoring Contractor shall provide clearance sampling and analyses.

The Monitoring Contractor shall provide qualified staff to collect samples for lead, polyaromatic hydrocarbons (PAHs), dioxin, fibrous glass, crystalline silica and mercury.

An accredited laboratory shall perform all sample analyses.

The Work shall be performed 24 hours per day, seven (7) days per week

Air Monitoring/Construction Inspection Services

Air monitoring by a Monitoring Contractor shall be conducted during all cleanup activities. The Monitoring Contractor shall provide individuals certified as project monitors and air sampling technicians to perform daily air sampling and inspections from the commencement of the project through final air clearance sampling. The Monitoring Contractor shall provide sufficient equipment and experienced personnel to monitor work area preparation and cleaning phases of the building interiors.

Qualifications

Project Monitoring

The Project Monitors must possess valid NYS Asbestos Project Monitor certificates. Monitors must have served as a third party project monitor on at least 25 asbestos abatement projects. Project Monitor must have performed final clearance inspections on at least 25 asbestos abatement projects. A single individual with Asbestos Project Monitor and Asbestos Project Sampling Technician certification shall not perform the functions of both Monitor and Technician during this project.

Air Sampling Technicians

Air monitoring technicians must possess valid NYS Asbestos Project Sampling Technician (APST) certificates. Technicians must have performed air sampling for at least 6 months. At a minimum at least 5 Air Sampling Technicians must be assigned to this project. A single individual with Asbestos Project Monitor and Asbestos Project Sampling Technician certification shall not perform the functions of both Monitor and Technician during this project.

Wipe Sampling Technicians

Wipe sampling technicians must have 1-year experience in wipe sampling for a variety of contaminants and have received state certified training in dust sampling. At a minimum at least 2 Wipe Sampling Technicians must be assigned to this project.

Equipment

Sampling equipment must be in sufficient quantity to provide the amount and type of samples required for this project. At a minimum the following equipment are required: air-sampling pumps with flow rate capacities of 2 to 10 liters per minute, tripods, rotometers, sample cassettes with mixed cellulose ester filters having pore size of 0.8µm, micro vacuum, disposable porous cellulosic towlettes moistened with wetting agent and solvent-wetted sampling agent.

Analytical Laboratory

The environmental laboratory must be certified by the New York State Department of Health. Certification for all the analytes specified herein must have been maintained for at least six (6) consecutive proficiency testing rounds. The laboratory must possess a gas chromatograph equipped with a capillary column and high-resolution mass spectrometer for analyzing dioxin and inductively coupled plasma for total metals. Cold Vapor Method apparatus shall be used for mercury analysis.

Proof of qualifications must be presented to the NYCDEP prior to commencement of work. The NYCDEP reserves the right to disqualify any individual(s) from work on this project for non-compliance with these specifications or the requirements of applicable rules and regulations.

Specifications

It is anticipated that the work will be completed within three (3) weeks.

Sampling and Analytical Procedures for Lead, PAHs, Dioxin, Fibrous Glass, Silica, and Mercury

1. Sampling for lead, PAHs, dioxin, fibrous glass, crystalline silica and mercury shall be performed by the wipe sampling technician. A completed chain of custody must accompany all samples. A unique sample number shall be assigned to each sample. A complete written description and/or diagram shall clearly identify each sampling location.
2. Post cleaning air samples for fibrous glass and silica shall be collected concurrently with the asbestos clearance air sampling procedures specified herein. Five samples for fibrous glass and one sample for silica shall be collected in each apartment.

3. Wipe samples shall be collected before and after cleaning for lead, mercury, dioxin, and PAHs.

Prior to the cleaning activities, three wipe samples shall be collected for each of these parameters in each apartment. The sampling locations shall be a wall, a bare floor, and a counter or tabletop.

After cleaning activities, three wipe samples shall be collected for each of these parameters in each apartment. The sampling locations shall be a wall, a bare floor, and a counter or tabletop; preferably at the same location as the pre-cleaning samples.

4. The required sampling and analytical procedures are specified in Table 1.

Table 1: Sampling and Analytical Methods

Parameter	Description	Sampling Methodology	Analytical Method
Lead	Wipe samples	HUD Appendix 13.1	EPA Method SW-846-6010B
PAHs	Wipe samples	ASTM D6661-01	ASTM-6661-01 EPA SW-846-8270C
Dioxin	Wipe samples	ASTM 6661-01	ASTM 6661-01 EPA Method SW-846-8290
Fibrous Glass	Air samples	NIOSH 7400	NIOSH 7400, Counting Method "B"
Crystalline Silica	Air samples	NIOSH 7500	NIOSH 7500 (XRD)
Mercury	Wipe samples	HUD Appendix 13.1	EPA Method SW-846 7471A

Asbestos Air Sample Collection and Analysis

1. All asbestos air samples collected during clean-up activities shall be analyzed via TEM. The method of analysis and sampling methodologies shall be in accordance with the applicable sections of Title 15, Chapter 1 of the Rules of the City of New York. and AHERA.
2. A turnaround time of 24 hours is required for all samples.
3. Asbestos clearance air samples shall be analyzed in accordance with the NIOSH 7400 Method, and analyzed by PCM followed by TEM. The laboratory shall report a PCMe value of all fibers greater than 5 microns in length. Therefore, the lab shall report PCM, TEM and PCMe values for each sample.

Asbestos Air Monitoring

1. At a minimum, five (5) TEM samples shall be collected per day during cleanup activities.
2. Samples shall be collected at isolation barriers outside the work area, the clean room of the worker/waste decontamination facility, and outside of the building.
3. Sample collection during clean up activities shall be in accordance with Title 15, Chapter 1 of the Rules of the City of New York (RCNY) and AHERA regarding documentation, sample locations, rate of flow, and required volumes to achieve the necessary analytical sensitivity.

4. Sampling equipment shall be placed at representative locations and away from obstruction. Sampling cassette must be placed on a tripod and not taped to existing surfaces. All air sampling equipment shall be pre- and post- calibrated to insure accurate air sampling volumes.
5. The Air Sampling Technician shall perform clearance air sampling after the areas are free of dust accumulations as determined by the Project Monitor. All surfaces must be completely dry prior to the start of sampling. Clearance air sampling shall be performed at each apartment. Five samples shall be collected in each apartment and two samples shall be collected in each common space. The elevator shaft and first floor commercial spaces shall be cleared separately. Clearance air monitoring shall be performed after the completion of **all** clean up activities at the work site. Clearance air sampling shall be aggressive and performed in accordance with Title 15, Chapter 1 of the RCNY Section 1-43 (a)-(d).
6. Clearance air samples shall be collected in accordance with the procedures specified in the NIOSH 7400 Method. The flow rate for collection of air samples shall be at least 10 liters per minute and no more than 15 liters per minute. Air sampling cassettes must be monitored to ensure the filters do not develop dark spots that would indicate clogging. The minimum sampling volume is 3600 liters. If clogging develops, the cassette must be changed.
7. All clearance air samples and completed chain of custody forms must be transported to the laboratory immediately after sampling is completed.

Clearance Criteria

1. The following clearance levels have been established by the USEPA for clean up activities resulting from the collapse of the WTC.

<i>Parameter</i>	<i>Clearance Level</i>	<i>Note</i>
Asbestos in air	0.0009 f/cc PCMe	Primary clearance level
Lead in settled dust	<25 µg/ft ²	Primary clearance level
Dioxin in settled dust	<4ng/m ²	Primary clearance level
Fibrous glass in air	<0.01 f/cc	Secondary clearance level
Crystalline silica in air	0.5µg/m ³	Secondary clearance level
PAHs in settled dust	<0.3 mg/m ²	Secondary clearance level
Mercury	between 1 and 2 mg/m ²	Secondary clearance level

2. Cleaning shall not be considered complete unless the primary clearance levels are achieved. The apartment will be re-cleaned and retested if the primary clearance levels are not achieved. These clearance levels may be re-evaluated and revised if determined necessary based on field conditions and analytical limitations. Secondary clearance levels shall be considered in determining the need for additional cleanup, however failure to meet the secondary clearance levels does not automatically trigger the re-cleaning.

Project Monitoring

1. The project monitor shall provide oversight of clean-up activities to ensure compliance with project specifications, tenants authorizations, and applicable rules and regulations. The project monitor shall be present on site during all cleaning activities. The project monitor shall coordinate all scheduling requirements for timely completion of the work (completion of work area preparation and cleaning activities within three (3) weeks. The project monitor shall maintain the inventory of valuable items in each unit as provided by tenants. A copy of the contractor requirements is attached. For additional and specific tasks, refer to this attachment.
2. The project monitor shall provide daily monitoring of all work activities to insure compliance with the scope-of-work, the applicable rules and regulations, and the contracts. This includes but is not limited to the verification of worker certification status, the use of proper engineering controls and appropriate work practices.
3. The project monitor shall direct corrective actions when appropriate and shall be responsible to stop work until corrections are made. Findings must be reported immediately to DEP via telephone call. Written notification of observation and corrective actions must be received by the DEP within 48 hours of telephone call.
4. A final report shall be submitted to the DEP within days of project completion. The report shall clearly identify the work performed in each unit and shall include all laboratory reports, chain-of-custody forms, field notes, copies of employee credentials (i.e. certificates), tenant and owner authorizations, etc.

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For
125 Cedar Street***New York City Department of Environmental Protection
Bureau of Environmental Compliance****Asbestos Contractor – Cleaning Procedures****Background**

A follow-up visit to 125 Cedar Street, a.k.a. 110 Liberty Street, revealed debris and significant dust accumulation present on surfaces throughout the interior of the building. The interior cleaning is to be accomplished by a licensed asbestos abatement contractor.

Purpose

A New York State Department of Labor (NYSDOL) licensed asbestos contractor with NYC DEP and NYSDOL certified workers shall perform the clean up of building interiors (12 stories, a penthouse, and a basement-5,000 to 6,000 square feet per floor). The entire building including common spaces, storage spaces, residential and commercial spaces (includes retail space on Liberty Street) shall be included in the clean up activities.

Scope of Work

- (1) All work performed shall be in compliance with all applicable, relevant, and appropriate regulations, including but not limited to those of the United States Environmental Protection Agency (USEPA), the United States Department of Labor, the New York State Department of Labor (NYSDOL), the New York State Department of Environmental Conservation, the New York City Department of Sanitation, the New York City Department of Health (NYC DOH), and the New York City Department of Environmental Protection (NYC DEP).
- (2) An ACP-7 form, asbestos project notification form shall be submitted as required by Title 15, Chapter 1 of the Rules of the City of New York (RCNY), directly to the NYC DEP Asbestos Control Program prior to the start of work. USEPA and NYSDOL notification shall be submitted.
- (3) A third party air monitoring firm shall perform air sampling and provide project oversight.
- (4) The asbestos contractor shall provide sufficient equipment and experienced personnel to complete work area preparation and cleaning activities of the building interiors within three (3) weeks. At least one asbestos supervisor shall be present per work area during the duration of the clean-up activities. Work shall be performed 24 hours per day, seven (7) days per week.
- (5) Personal protective equipment including disposable clothing, gloves, and respirators shall be worn during this clean-up activity.
- (6) Warning signs shall be posted at the approach to each work area.

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For
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- (7) A separate worker and waste decontamination enclosure system in compliance with Title 15, Chapter 1 of the RCNY shall be installed at the entrance to each work area. Each work area shall entail isolating three floors at 125 Cedar Street simultaneously. More than one work area may be established. Work shall proceed from the penthouse down to the first floor. The use of a remote decontamination enclosure system installed on the second floor for use at each work area (except first floor and basement) may be acceptable. Prior approval must be received from the NYC DEP for decontamination enclosure system placement and phasing of clean-up activities.
- (8) An entry/exit log in compliance with the requirements set forth in Title 15, Chapter 1 of the RCNY shall be maintained in the clean room. The site supervisor shall maintain an activity log.
- (9) Initially, the interior of the elevator shaft, including the top of the elevator car and the elevator pit, shall be HEPA vacuumed and wet wiped to allow for the use of the elevator during the clean up. Once the clean up throughout the building is complete, the elevator shaft, including the top of the elevator car and the elevator pit, shall be re-cleaned prior to clearance air monitoring.
- (10) Isolation barrier locations (i.e.: wall or ceiling penetrations, windows, vents, doors, etc.) shall be HEPA vacuumed and wet wiped prior to installing two-layers of 6-mil polyethylene sheeting and sealed with tape. Terraces, window wells, and window guards that are accessible from the interior shall be cleaned.
- (11) Negative pressure ventilation equipment shall be installed and operated continuously 24 hours per day during all clean-up activities. Equipment shall run continuously until clearance air monitoring. A minimum of one air change every 15 minutes shall be provided. When ducting to the outside is not possible, a second negative air unit compatible with the primary unit may be connected in series.
- (12) A staging area shall be established within each unit. The area shall be cleaned (wet-wiped and HEPA vacuumed) and covered with a layer of 6-mil polyethylene sheeting. The staging area shall be used for cleaning the surfaces of moveable items.
- (13) All debris and/or dust shall be misted and double bagged. Accumulation of water is prohibited. Water misting shall be sufficient to wet the material without water accumulations. Caution shall be taken to avoid wetting items that may be damaged by wet methods. An encapsulating agent shall not be applied. Once all surfaces have been wet wiped and HEPA vacuumed a second cleaning shall be performed. Surfaces include but are not limited to walls, floors, ceilings, ledges, windowsills, trims, appliances, equipment, personal items, and furnishings.
- (14) Surfaces that may not be wet wiped shall be HEPA vacuumed three times or disposed as ACM waste. Disposal of material may not occur without prior authorization by the building owner and/or tenant, as applicable. Items identified by tenants for cleaning that cannot be cleaned shall be immediately brought to the attention of NYC DEP. NYC DEP will contact the tenant or tenant representative to resolve the issue. Any agreement to dispose the item(s) must be received in writing from the tenant.

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- (15) The substrate beneath buckled floors shall be exposed by the contractor and cleaned (authorization from owner shall be obtained). Removed flooring shall be wrapped in two-layers of polyethylene sheeting, sealed with tape, and appropriately labeled. The contractor shall not be responsible for replacement of the floor.
- (16) Tenants and/or owner, as applicable, have identified items to be cleaned. Tenants have tagged all items that must be cleaned. The contractor shall dispose untagged items unless otherwise indicated in this scope of work. Special conditions or handling instructions may also be specified within units. These include items/locations not to be incorporated in this scope of work. Tenants shall provide written notice of special instructions and items not to be handled with their authorizations.
- a) Certain items, including but not limited to, TV's, VCR's, microwave ovens, washing machines, dryers, CD players, cameras, DVD players, toasters, fin radiators, upholstery, carpeting, etc., are to be cleaned via wet wiping and/or HEPA vacuuming techniques. Compressed dry air (low pressure) shall be used to blow debris/dust from openings/crevices in the equipment. HEPA vacuuming must be preformed in conjunction with this procedure. Care must be taken not to damage the items. It may not be possible to thoroughly clean these items. Tenants and/or owner have identified items for cleaning with tags. Tenants and/or owner, as applicable, shall make the final decision on cleaning or disposal (see item 14).
 - b) Items for disposal shall be double-wrapped in 6-mil polyethylene sheeting and labeled as ACM waste or bagged in labeled ACM waste bags. The cleaning of items to be disposed is not required.
 - c) Built-in items; i.e. dressers, window boxes, perimeter ventilation unit covers, bookshelves, etc. shall be wet wiped and HEPA vacuumed. The contractor shall be responsible for moving built in items that may impede access to surfaces that require clean up. However, the cleaning contractor is not responsible for the reinstallation of said items or any damage related to the removal of built-in items. Care shall be taken not to damage the items whenever possible.
 - d) Kitchen stoves, dishwashers, and refrigerators shall be wet wiped and HEPA vacuumed. After the cleaning procedures, the project monitor shall evaluate the stoves to determine proper disposal methodology. The contractor shall be responsible for the removal and disposal.
 - e) Books, record albums, videotapes, paperwork, and documents shall be removed and disposed unless identified for cleaning. A HEPA vacuum with a soft brush attachment shall be used for cleaning these items.
- (17) All equipment used for cleaning activities shall be vacuumed and/or wet wiped prior to removal from the work area.

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- (18) The project monitor shall perform a thorough visual inspection to verify the absence of visual dust accumulations. Additional clean-up procedures shall be performed where visible dust is observed.
- (19) Upon successful visual inspection, the work area shall be isolated from the remainder of the work site pending clearance air monitoring. Clearance air monitoring shall be performed after completion of all clean up activities at the work site.
- (20) The Air Sampling Technician shall perform air sampling after the area is free of dust accumulations as determined by the Project Monitor. The apartment will be re-cleaned and retested if the air monitoring clearance criteria are not achieved. The clearance air monitoring criteria have been established by the USEPA for this clean up activity (WTC vicinity). The monitoring contractor shall also collect wipe samples for metals. Refer to the monitoring specification for additional information.
- (21) After successful clearance air monitoring, isolation barriers shall be removed in accordance with the applicable requirements of Title 15, Chapter 1 of the RCNY.
- (22) The cleaning contractor is not responsible for damage or loss caused by the acts of parties not involved with the cleanup. Tenant shall be responsible for the removal of any valuables. If such removal is not feasible, the tenant shall notify the Project Monitor in writing (including original receipt, formal appraisal, or estimated value) as to the location, description and value of said item.
- (23) Disposal of all waste generated during the cleaning shall be the responsibility of the contractor. All waste generated shall be treated as asbestos-containing material (ACM) unless otherwise indicated herein. Transportation and disposal of generated waste shall be in compliance with all applicable rules and regulations.
- (24) All work shall be in compliance with all other applicable requirements of Title 15, Chapter 1 of the RCNY.
- (25) Visible mold has been verified in apartments 6N, 5N, 4N, 3N and 2N. The contractor shall cut and remove all portions of sheet rock with the presence of mold. The abatement contractor shall not be responsible for repair or replacement of removed sheet rock. For other surfaces, the cleaning contractor shall perform necessary remediation with additional guidance from NYC DEP and NYC DOH. Staff experienced in mold remediation is required. The contractor may subcontract this portion of the work.
- (26) The following table contains special conditions and handling instructions for items in specific units. Items not specifically referenced in this table shall be cleaned in accordance with the procedures specified in this scope of work.

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Unit No.	Action Item / Notables
Penthouse	• <u>Built-in air conditioning unit to be evaluated by the project monitor to determine proper cleaning or disposal methods.</u> • The wood burning stove is to be cleaned by wet wiping and HEPA vacuuming. Compressed dry air (low pressure) shall be used to blow debris/dust from openings/crevices. HEPA vacuuming must be performed in conjunction with this procedure. The chimney shall be cleaned to the exhaust point. • The wooden chest is bolted in place; it can be unbolted for cleaning. • <u>Wooden decking shall be cleaned after consultation with tenant.</u>
12SE	• Wall-mounted carpeting shall be cleaned in accordance with the carpet procedures specified herein.
11S	• Interior of chimney flue leading to the roof shall be cleaned. • Living room walls shall not be wet wiped. • <u>Bureau shall be cleaned after consultation with tenant.</u> • Painting behind bed shall not be handled.
10S	• The crawlspace located in the bathroom shall be cleaned. If demolition is required to access this crawlspace, the contractor shall provide the demolition. The contractor is not responsible for floor replacement. • An isolation barrier shall be installed over the closet with boxes. Boxes shall not be handled or cleaned.
8N	• North column wall to be removed. • <u>Stored moldings shall be cleaned after consultation with tenant.</u>
7N	• The jukebox shall be cleaned. Compressed dry air (low pressure) shall be used to blow debris/dust from openings/crevices in these items. HEPA vacuuming must be performed in conjunction with this procedure. Care must be taken not to damage the items.
5N	• <u>The piano shall be cleaned.</u> Compressed dry air (low pressure) shall be used to blow debris/dust from openings/crevices. HEPA vacuuming must be performed in conjunction with this procedure. Care must be taken not to damage the piano. This procedure shall be repeated until the piano is appropriately clean as determined by the project monitor. • Radiator covers shall be removed and discarded.
3N	• Knitting machines shall be cleaned. Yarn on the machine shall be disposed. Compressed dry air (low pressure) shall be used to blow debris/dust from openings/crevices. HEPA vacuuming must be performed in conjunction with this procedure. Care must be taken not to damage the machines. This procedure shall be repeated until the machines are appropriately clean as determined by the project monitor. • <u>Artwork shall be cleaned after consultation with tenant.</u> • <u>Slides shall be cleaned after consultation with tenant.</u>
3S	• The painting shall be covered without cleaning it.

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Unit No.	Action Item/Notables
Lobby (Restaurant)	• Suspended ceiling tiles and ductwork to be removed and disposed. • Stove exhaust duct to be cleaned and left in place • Remove all hung ceiling supports and tiles, and dispose • Demolish rigid ceilings and dispose • Demolish ceiling mounted air-handler(s) and dispose • Remove and demolish all associated sheet metal and flex-duct, including thermal insulation Two (2) kitchen exhaust hood systems were also present in the restaurant. A through cleaning of these systems would restore them to a useable condition. Traditional kitchen exhaust hood cleaning practices as prescribed by the International Kitchen Exhaust Cleaning Association (IKECA) could be used for this purpose.

(27) Time sheets shall be submitted to NYC DEP on a weekly basis.

(28) At the completion of work a final report shall be submitted to NYC DEP. The final report shall include copies of the daily logs (activities and entry/exit logs), waste manifests, etc.